

ACTIVITY 1.1 TIME FOR LAUNCH!

From Chapter 1 of the Principia Space Diary
<http://principiaspacediary.org/activities/time-for-launch>

LEARNING LEVEL

KS1, KS2, P1-5

CURRICULUM LINKS & DIFFERENTIATION IDEAS

View detailed curriculum links for England, Scotland, Northern Ireland and Wales, plus differentiation ideas for your region and year level.

principiaspacediary.org/curriculum-planner/



Resources Required

- Analogue clocks (optional)

Background to this Activity

This lesson works well as a challenge task for children to make links between analogue and digital time. It also introduces the concept of duration, as children have to calculate the new time using the clues given.

The timings used are those from Tim Peake's 2016 launch and will help children develop an understanding of how long the different stages take.

It is also interesting to note that the time used on the ISS is Coordinated Universal Time (UTC) which is equivalent to GMT. It was originally set to GMT-5 to coincide with the time in Texas, USA but this was not a suitable time for the cosmonauts in Russia – so GMT is also a compromise between the time in Houston and the time in Moscow (the two primary mission control centres).

Running the Activity

For this activity, children need to convert time between analogue and digital time. They also need to understand the abbreviations a.m. and p.m.

Begin by looking at the times already displayed. Ask the children to indicate which times they have to find out – they will have to do this by adding the correct numbers of minutes to the times already given.

Ensure that children recognise that the first picture in the series is below the title and not to the right. Ask them how they know this. They should be able to explain that 8.33am is earlier in the morning than 11.03am. Using the times given, children should be able to work out how to read the storyboard in the correct order.

Children then continue adding on the minutes to find out the next time. They need to draw in the missing hands to the clock faces.

Remind children that the hour hand moves as well as the minute hand – demonstrate on a real clock how the hour hand moves between the hours as the minute hand rotates around the clock.

Children are also able to draw two of the scenes in the comic - the launch ("lift off") and the last box where Tim boards the ISS for the first time.

Children should be developing an understanding of analogue and digital time. As they are introduced to 24-hour time, they could be asked how to convert and record all the times from the sheet in 24-hour time.

Questions for the Class

To challenge students further, try asking some extension questions about the durations between different times:

- How long did Tim spend between arriving at the launch site and taking off in the Soyuz?
- How many minutes did Tim spend in the Soyuz before the launch site had to be evacuated?
- What was the total amount of time spent in the Soyuz, from boarding to disembarking?